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about 2%." The examiner is correct that, in some circumstances, 36% could be considered "about 40%." However, Reibel has limited the range of about in this case. First, as discussed above, Reibel specifically teaches that there should not be less than 40% resin because the water resistance problem.

In contrast, Applicants can successfully use less than 40% resin. For instance, in Example 10, paragraphs [0091-0094], the total binder used is 3-4% and the thickness swell is 18.7-25.3%.

Moreover, Reibel teaches that the particles are "fully impregnated with resin such individual fibers of the paper are resin coated (or more appropriately, fused with resin). That is, a new composite material is prepared rather than a material that is produced by simply gluing together paper pieces by an adhesive through contact bonding." Col. 5, lines 45-48. See also, paragraph [0005] of Applicant's specification. In contrast, in the claimed invention, the amount of resin binder included in the composite should not "be sufficient so that it fully impregnates the cellulosic material." Paragraph [0032].

Furthermore, each of the ratios Reibel uses has 1 significant digit after the decimal point (0.8:1.0, 1.0:1.0, 1.3:1.0, and 1.5:1.0). This means that a ratio of 1.4:1.0 must be different from either a ratio of 1.3:1.0 or a ratio of 1.5:1.0. A ratio of 1.4:1.0 corresponds to 42%, which means that "about 40%" must be less than one half the difference between 40 and 42%, or 1%. When the at least 1.5% secondary resin is added to more than 39%, the total resin content is at least 40.5%, and outside the claimed range of less than 40%.

At worst, Reibel's use of ratios for the lower limit of 1.5:1.0 (corresponding to 40%) and 1.3:1.0 (corresponding to 43%) indicates that these two ratios are different. Therefore, the limit on the range must be less than half of the difference between 40% and 43%. This means that "about 40%" must be more than 38.5%, which when added to the at least 1.5% secondary resin gives a total of at least 40%, which is outside the claimed range of less than 40%.

Therefore, claims 1-9, 20, 22-23, 25-26, and 34-36 are not anticipated by, nor would they have been obvious to one having ordinary skill in the art at the time the invention was made over, Reibel.

The rejection of claims 10-13 and 28-31 under 35 U.S.C. §103(a) as being unpatentable over Riebel in view of Clay and Hse is respectfully traversed. Clay and Hse are cited as teaching

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soy hydrolysates and phenolic resins as binders. However, Clay and Hse do not remedy the deficiencies of Riebel. Therefore, claims 10-13 and 28-31 would not have been obvious to one of ordinary skill in the art at the time of the invention over Riebel in view of Clay and Hse.

The rejection of claims 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Riebel in view of Holmberg is respectfully traversed. Holmberg is cited as teaching "a binder composition comprising phenol formaldehyde that can be used with cellulosic material, such as wood chips" and that "the aldehyde can be either formaldehyde or paraformaldehyde." Holmberg does not remedy the deficiencies of Riebel. Therefore, claims 14 and 15 would not have been obvious to one of ordinary skill in the art at the time of the invention over Riebel in view of Holmberg.

The rejection of claims 16-19 under 35 U.S.C. §103(a) as being unpatentable over Riebel in view of Hse and further in view of Wynstra is respectfully traversed. Hse is cited as teaching "an OSB panel having an adhesive comprising a soy protein hydrozylate, caustic, formaldehyde, and phenol. The molar ratio of formaldehyde to phenol to caustic is 1.65:1:0.65, which is similar to the disclosed composition." Wynstra is cited as teaching "a thermosetting resin composition comprising a fibrous material, phenol, formaldehyde and a base catalyst," and that "under alkaline conditions, phenol and formaldehyde condense to form methylols." Neither Hse nor Wynstra remedy the deficiencies of Riebel. Therefore, claims 16-19 would not have been obvious to one of ordinary skill in the art at the time of the invention over Riebel in view of Hse and further in view of Wynstra.

The rejection of claim 21 under 35 U.S.C. §103(a) as being unpatentable over Riebel in view of Blizzard is respectfully traversed. Blizzard is cited as teaching "a silicone coating composition useful for coating a substrate to provide a water resistant coating." Blizzard does not remedy the deficiencies of Riebel. Therefore, claim 21 would not have been obvious to one of ordinary skill in the art at the time of the invention over Riebel in view of Blizzard.

The rejection of claim 24 under 35 U.S.C. §103(a) as being unpatentable over Riebel in view of Roubicek has been overcome. Roubicek is cited as teaching that "felting is a standard process used to produce hardboard." Roubicek does not remedy the deficiencies of Riebel. Therefore, claim 24 would not have been obvious to one of ordinary skill in the art at the time of the invention over Riebel in view of Roubicek.

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The rejection of claims 27 and 32-33 under 35 U.S.C. §103(a) as being unpatentable over Riebel in view of Johns has been overcome. Johns is cited as teaching that "a commercially popular resin for use in making particle boards is polymeric isocyanate." Johns is also cited as teaching that "phenolic resins, although inexpensive, have a slow cure and require resin in excess of that normally necessary to overcome the swelling tendency of cellulose when exposed to moisture and caustic," and that "[i]socyanate resins are fast curing and can be used at approximately half the rate of application of phenolic resins to achieve the same strength, but are expensive." Johns does not remedy the deficiencies of Riebel. Therefore, claims 27 and 32-33 would not have been obvious to one of ordinary skill in the art at the time of the invention over Riebel in view of Johns.

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Conclusion

Applicants respectfully submit that, in view of the above amendments and remarks, the application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,  
DINSMORE & SHOHL LLP

By Patricia L. Prior  
Patricia L. Prior  
Registration No. 33,758

One Dayton Centre  
One South Main Street, Suite 1300  
Dayton, Ohio 45402-2023  
Telephone: (937) 449-6400  
Facsimile: (937) 449-6405  
E-mail: patricia.prior@dinslaw.com